Purpose of this Management Outline

The North Dakota Department of Health (Department) developed this Management Outline (Outline) to assist local health agencies and property owners in the cleanup of former methamphetamine (meth) production sites (labs). This Outline is not intended to modify or replace local requirements or guidance that are equally as stringent. In the event of a conflict between this Outline and local requirements, the most stringent requirements take precedence. This Outline provides cleanup procedures to address contamination most frequently associated with meth labs and does not address every possible situation. If a situation is encountered which is not addressed in this Outline or clarification is desired, contact the local health agency or the Division of Waste Management.

INTRODUCTION

This Outline describes cleanup procedures for former meth lab sites that, if closely adhered to, will protect public health and the environment and enable safe re-occupation of the site. The Department does not certify that cleanups meet this Outline, nor does it conduct follow-up inspections of properties to ensure cleanups have been conducted as described in this Outline. Such authority and activities remain at the local level with the local public health agency.

This Outline describes elements of a cleanup, and provides a list of equipment and procedures to manage chemicals and wastes that may be encountered at a former meth lab site. The Department advises affected property owners to closely adhere to the cleanup procedures. **Upon being notified that a meth lab was discovered, property owners are advised to distribute the attached Notice to all residences and businesses in the immediate vicinity of the affected property (at a minimum, within one block or 500 feet, whichever is greater).**

ELEMENTS OF A CLEANUP

Ventilation of the structure throughout cleanup

During a criminal investigation or gross chemical removal, the lab site is generally vented for the safety of on-site personnel. However, it may be sealed, for security reasons, when law enforcement or response crews leave the scene. Short-term venting may not be sufficient to clear all contaminants from the air inside the structure. Therefore, vent structures for a minimum of two days before cleaning. A longer ventilation period may be necessary depending on the severity of contamination. Open all windows and use exhaust fans to circulate air out of the house. If possible, direct air flow through existing heating/cooling ductwork. Seek professional advice if ambient weather conditions prohibit such ventilation.

After the initial airing, continue the ventilation throughout the cleanup process and for at least three days after cleanup is completed. Care must be taken that vented contaminants are exhausted to the outdoors and not to the air intakes of adjacent structures.

To promote the volatilization of some types of chemicals, other states recommend that windows and doors be closed and the temperature inside the residence or building be increased to approximately

90 degrees Fahrenheit for 48-72 hours. However, this method called “baking” is not recommended by the Department at this time because: 1) the effectiveness of baking has not been documented (for instance, it may not be possible to heat a building sufficiently to increase volatilization); and 2) high temperatures may affect the physical integrity of wooden structures.

Chemical remnants and spills

Law enforcement and response crews typically do not remove all hazardous materials or wastes, and commonly leave behind some items that may have been used in the manufacturing of meth. Care must be exercised in handling these items.

Powders and liquids may be corrosive, toxic, or flammable. Neutralize acidic solutions with sodium bicarbonate (baking soda) and basic solutions with weakly acidic wash solutions (such as vinegar, citric or acetic acid). Scoop up and packaged solids for proper waste disposal. Absorb liquids with clay or another non-reactive material and packaged for proper waste disposal. See the attached list of commonly encountered chemicals and how to dispose of them.

Working with corrosives can be dangerous for people that are not familiar with their properties; pH paper can be used to check for a neutral surface after neutralization. Persons conducting the cleanup must contact local publicly owned treatment works for information on sewering liquid wastes after neutralization has been accomplished.

Porous materials and household furnishings

Fabric, upholstery, upholstered items, carpets or draperies

> Absorbent materials can accumulate vapors that are dispersed during the methamphetamine cooking process, or can collect dust and powder from chemicals used in drug manufacture. Non-lab items can also be contaminated by lab spills, supplies and equipment. If chemical odors are present, or porous materials show signs of spillage or discoloration, disposal may be more cost-effective than testing and cleaning. For costly items (such as large upholstered furniture), cleaning may be an acceptable course of action, particularly in a short-term lab. However, in areas of moderate to high contamination, upholstered furniture and deep-pile carpeting may not be cleanable. Best judgement and information from the preliminary assessment must be applied to decisions regarding the disposition of these goods.
>
> At a minimum, cleaning of porous materials (carpeting and upholstered furniture) that are not discarded should consist of vacuuming using a machine equipped with a HEPA filtration system, followed by hot water detergent scrubbing. For non-washable materials such as lined curtains, when those materials are not heavily contaminated, dry-cleaning is an option. In cases of moderate to heavy contamination, the property owner should avoid attempts at cleaning and dispose of such items.

Plumbing and ventilation (heating and air conditioning) systems

Plumbing

> Wastes from meth labs are frequently burned or dumped outside the structure, but most liquid chemical byproducts are dumped into bathtubs, sinks, drains, and toilets. These chemicals and contaminated wastes collect in drains, traps, and septic tanks; sewered wastes may give off chemical fumes. If staining or chemical odors indicate dumping into municipal sewer systems, power flush the household plumbing. When lab chemicals have been dumped into septic systems, contact the Division of Water Quality for information

related to management of the septic system contents. Remove and properly dispose of visibly contaminated (etched or stained) fixtures. Etching and staining also indicates the need for decontamination of the plumbing system.

Ventilation systems

Heating and air-conditioning systems tend to collect fumes and dust and redistribute them throughout the structure. The vents, ductwork, filters, walls and ceilings near ventilation ducts can become contaminated. Replace all filters in the system, remove and clean vents, clean the surfaces near system inlets and outlets, and clean the system's ductwork. Cleaning by a professional heating and air conditioning cleaning company is recommended to effectively remove contamination from the ductwork. In motels, apartments, row-houses or other multiple-unit dwellings, a ventilation system may serve more than one unit or structure. These connections must be considered during the cleanup activities.

Floors, walls, and ceilings

Interior surfaces such as walls, wood flooring or other floor coverings, counter tops, ceilings, and paneling can also absorb contamination from the meth production process, especially those areas in and adjacent to where production took place. Remove and replace all interior surface sections that have visible contamination or staining. Scrub remaining interior surfaces using a standard detergent solution (such as Simple Green™ or Trisodium Phosphate (TSP)) and rinse with clean water. Wear gloves, protective clothing, and eye protection during the cleaning and continue ventilation throughout the cleaning.

Repainting

After cleaning, especially in areas of moderate to high contamination, paint interior surfaces with an oil base paint, epoxy or polyurethane coating. Should there be any contamination left after cleaning, painting will put a barrier between the contamination and anyone who comes in contact with the surface. Spray paint or remove and replace surfaces that cannot be scrubbed, such as ceiling tiles and spray-textured ceilings.

When a coating is applied, allow adequate drying time as per the manufacturer's directions. Complete coverage may require more than one coat. If odor, staining, or discoloration reappears after the coating dries, remove and replace affected interior surface sections.

Final ventilation for at least three days

After cleaning is complete, ventilate the structure for a minimum of three days to allow any remaining odors to disperse. Open all windows and use exhaust fans to circulate air out of the house. During this time, the property should remain off-limits unless it is necessary to make short visits. After the cleaning and final airing, recheck for any odors, restaining, or discoloration. These signs would indicate that the initial cleaning was not successful, and that further cleaning or other more extensive steps are needed.

Once cleanup had been successfully completed in accordance with this Outline, the property owner is expected to provide certification to the local health agency that the property had been cleaned up and is suitable for reoccupation.

Should further evaluation be done after cleanup?

Property owners are advised to have their property further evaluated and possibly tested if: 1) the property still has odors, visible staining/discoloration, or appears to cause physical discomfort or irritation to those exposed; 2) concerns remain regarding possible residual contamination; or, 3) concerns remain regarding liability. Such evaluation and testing may be expensive, but may provide peace of mind. Property owners may wish to further consult with a professional cleaning company and their insurance carrier for advice and assistance in this matter.

Remember these steps to cleaning a former meth site:

1. Notify neighbors that the property was used for meth production.
2. Air out the property before and during cleanup.
3. Remove all unnecessary items and dispose of them.
4. Remove visibly contaminated items or items that have an odor.
5. Clean all surfaces using household cleaning methods and proper personal protection.
6. Clean the ventilation system.
7. Leave plumbing cleanup to the experts.
8. Air out the property for a minimum of three days after completing cleaning.
9. If odor or staining remains, have your property evaluated by a professional.
10. Certify to the local health agency that the property has been cleaned up in accordance with this Outline.

Cleanup Equipment List:

Protective clothing (coveralls)
Vinyl gloves
Plastic trash bags, large
Plastic bags, 1 gallon, zip lock
Kitty litter
Camera
Cardboard boxes, as needed
Shovel
Goggles/Eye shields

Explanation of procedures:

1. When working with hazardous chemicals, always wear eye protection (eye shields or goggles), and protective clothing, boots, and disposable vinyl gloves.
2. Ensure the work space is well ventilated.
3. Have all equipment you will need to do the cleanup at the site.
4. Have a buddy team to do the cleanup.
5. Take pictures before and after cleanup to document what was done.

Commonly Encountered Chemicals		
Chemical	**Hazards**	**How to Dispose**
Ephedrine & Pseudoephedrine	None	Landfill[2]
Red Phosphorus (and contaminated filter materials)	Fire Toxic Gas	Handle with extreme care. Remove and place in a labpack[3] container (small amounts). Call for professional assistance for large amounts.
Sodium Hydroxide (Lye, Caustic Soda)	Corrosive	Liquids: Dilute, neutralize and sewer[1] Solids: Double bag and landfill[2]
Freon	Ozone depleting chemical Freezing	Evaporate[4] small amounts. Large amounts, call for professional assistance.
Toluene	Fuel Ignitable	Small amounts (less than 1 gallon): solidify, double bag and dispose in landfill[2]. Unused product: use or return to seller (if seller can be identified).
Coleman Fuel or other solvents	Fuel Flammable vapors	Small amounts (less than 1 gallon): solidify, double bag and place in landfill[2]. Unused product: use or return to seller (if seller can be identified).
Hydrochloric Acid (hydrogen chloride gas) Muriatic Acid	Corrosive Acid gas	Liquids: Dilute, neutralize and sewer[1]. Compressed gases should be returned to cylinder owner.
Phosphine gas and hydriodic gas	Toxic gases	Ventilate[5] "cooking area." Open windows and doors, use fans.

Chemical	Hazards	How to Dispose
Ammonia & Anhydrous Ammonia	Toxic gas Corrosive	Ventilate[5]. Compressed gas cylinders should be returned to cylinder owner or may be emptied under water and disposed once empty. Puncture empty container.
Occasionally Encountered Chemicals		
Chemical	**Hazards**	**How to Dispose**
Potassium chlorate	Reacts with Red Phosphorus	Segregate from red phosphorus if any identified on-site. Call for professional assistance for disposal.
Benzene	Carcinogen Fuel (Ignitable)	Small amounts (less than 1 gallon): solidify, double bag and place in landfill[2].
Chloroform	Toxic gas	Ventilate[5]. Small amounts may be evaporated[4].
Ethanol	Fuel (Ignitable)	Small amounts may be evaporated[4].
Hydrogen cyanide	Toxic gas	Ventilate[5] with extreme care, causes fatal asphyxia rapidly.
Lithium aluminum hydride	Water reactive Corrosive	Segregate containers, place in labpack[3] container.
Methylamine	Ignitable Corrosive	Small amounts may be solidified, double bagged and disposed in a landfill[2].
Petroleum ether	Ignitable solvent	Small amounts may either be evaporated[4] or solidified, double bagged and disposed in a landfill[2].
Sodium (metal)	Water reactive Corrosive	Segregate containers, place in a labpack[3] container.
Thoinyl chloride	Water reactive Corrosive	Segregate containers, place in a labpack[3] container.

Footnotes:

1. Dilute, neutralize and sewer:

   Dilute chemicals by mixing them with water in a sink that drains to a publicly owned treatment works, not a lagoon or septic system. Use 1 volume of chemical to 3-5 volumes of water. Depending on the chemical's pH (<7 is acidic, >7 is basic), neutralize with a corresponding acid or base. To neutralize a basic solution, use vinegar as the acid. To neutralize an acid solution, use baking soda as the base. Once the pH has been brought to between 5 and 8.5, dispose of the solution by opening the drain. The solution will then mix with other wastewater and be effectively treated in the treatment works.

2. Solidify, double bag and landfill:

   Take a 1 gallon zip lock bag, fill approximately 2/3 full of kitty litter. Pour small amounts of liquid chemical into bag, zip shut. Shake bag until no liquids can be seen. Add more liquid to bag,

repeat until kitty litter is fully used. Repeat entire process until all liquid chemicals have been solidified. DO NOT MIX CHEMICALS! Place 1 gallon bags inside a large trash bag. Bring to landfill for disposal, do not set it out for the garbage truck to collect.

3. Labpack:

Chemicals in individual containers, normally glass or metal, need to be segregated from other chemicals to prevent reactions. Take a resealable drum-type container, such as a lidded 5 gallon bucket or 30 or 55 gallon drum. Pour about 2 inches of kitty litter into the container, then begin to place small containers in the larger container with ample space separating the small containers. Make sure chemicals that have the same hazards are in the same container, otherwise you may have chemical reactions in the labpack. Fill in voids with kitty litter and cover with at least 2 inches of additional kitty liter. Add more small containers as necessary. Bring to landfill for disposal.

4. Evaporate:

Place a small amount of chemical in a shallow pan. Place pan into an evaporation hood that discharges to outside atmosphere or place pan in a well ventilated, secure area where it will not be disturbed. Allow chemical to evaporate. Repeat as necessary until all of the chemical is evaporated.

5. Ventilate:

Open all windows and doors in the area where you will be working. If a fan is available, turn it on and point toward an open window.

Notice

A methamphetamine lab has been identified at:

_____ _____

Street Address Apartment #

_____

City, State, Zip

The property owner is:

_____

Name

_____ _____

Address, City, State, Zip Phone Number

This notice is to inform you that a meth lab was discovered at the above location. Before the property is re-occupied, the property owner will remove all wastes and clean up the property in accordance with procedures established by the North Dakota Department of Health. These procedures, if closely followed, will render the property safe for re-occupation. The property owner will provide certification to the local agency regarding cleanup once it is completed.

Chemicals, many of which are common household chemicals, are used in the production of meth and wastes are generated. A typical North Dakota meth lab contains household chemical in quantities similar to what may be found in any home's storage area or garage. Some of the common household chemicals used to produce meth include: lye, toluene, Coleman fuel, and muriatic acid. The property may contain some of these or other chemicals and wastes from the meth production activities. Normally, these labs operate for a short period of time before being discovered by law enforcement personnel. Should you have questions, contact the property owner or the local health agency.